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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/053,566	01/24/2002	Toshio Ando	MIT-025-USA-P	3314

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EXAMINER

MICHENER, JENNIFER KOLB

ART UNIT

PAPER NUMBER

1762

DATE MAILED: 10/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/053,566

Applicant(s)

ANDO ET AL.

Examiner

Jennifer Kolb Michener

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recitation of "Aldrich" renders the claim indefinite because it does not indicate whether the same material made by a different manufacturer is equally operational.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fessenden in view of Sayo et al. and Carstairs et al.

Fessenden teaches a method of treating and preserving plant leaves (col. 2, line 36) in which the plant leaves are immersed in a dehydrating solvent (col. 6, lines 46-55), which replaces the water of leaves. Subsequent to dehydration, Fessenden impregnates or permeates the leaves with a second solution (col. 6, line 70; col. 8-10).

Fessenden teaches that the dehydrating solvent may be the same as the volatile vehicle he used in his pre-treatment, color-stabilizing step (col. 6, line 55), which was taught to be a combination of acetone and a monohydric alcohol (col. 4, lines 51-53).

Fessenden teaches that the impregnating solution is an aqueous solution of polyethylene glycol (col. 10, lines 52-56).

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While Fessenden teaches the use of a monohydric alcohol in combination with his acetone dehydration solution, he fails to specifically require the monohydric alcohol to be ethyl alcohol, as required by the claim. However, Examiner notes that ethyl alcohol is a monohydric alcohol. Additionally, Examiner cites Carstairs for teaching that ethyl alcohol is one of four preferred monohydric alcohols for use in preserving plant materials (col. 3, lines 52-54).

Since Fessenden teaches the use of a monohydric alcohol-acetone solution for dehydrating plant leaves and Carstairs teaches that ethyl alcohol is a preferred monohydric alcohol for such a treatment method, Carstairs would have reasonably suggested the use of ethyl alcohol as the monohydric alcohol for Fessenden. It would have been obvious to one of ordinary skill in the art to use the teachings of Carstairs in the method of Fessenden because Carstairs teaches ethyl alcohol as a suitable monohydric alcohol for preserving plant matter. Additionally, it would have been obvious to one of ordinary skill in the art to select ethyl alcohol from the limited class of monohydric alcohols, as taught by Fessenden.

While Fessenden teaches the use of polyethylene glycol in aqueous solution as the impregnating material, he fails to specifically teach the use of acetone in this solution, as required by the claim.

Sayo et al. teach that acetone is in fact an "aqueous solvent miscible with water".

Therefore, an aqueous solvent, as taught by Fessenden would be inclusive of an

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acetone-water mixture. Furthermore, Sayo teaches that polyethylene glycol is soluble in water and in aqueous solvents miscible with water such as acetone (col. 4, lines 3-7). Since Fessenden teaches the use of an aqueous solvent for dissolving the polyethylene glycol and Sayo teaches that acetone is an aqueous solvent miscible with water for dissolving polyethylene glycol, Sayo would have reasonably suggested the use of acetone in the Fessenden's aqueous solution of polyethylene glycol. It would have been obvious to one of ordinary skill in the art to use the teachings of Sayo in the method of Fessenden with the expectation of successful results since Sayo teaches the solubility of ethylene glycol in water-acetone solvent mixtures. Additionally, many of the solvents used by Fessenden in his various treatment steps involve acetone, as outlined above regarding the dehydrating solution, thus acetone is taught to be compatible in the preservation method of Fessenden.

The leaves of Fessenden are dyed with a coloring matter, as required by the claim (col. 5, line 13).

7. Claims 2-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fessenden in view of Sayo and Carstairs as applied to claim 1 above, and further in view of Dokkestul et al. (5,807,604).

Fessenden teaches that which is disclosed above regarding the preservation and stabilization of the color of plant leaves and particularly those with cyanin-based

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coloring materials/dyes, but fails to specifically teach coloring with the exact dye names claimed by Applicant.

Dokkestul teaches a method for preserving plant materials by infusing with an aqueous ethylene glycol solution containing tartazine yellow dye, as required in claims 6 and 10, either singly or with co-dye colorants to provide the preserved foliage with a green coloration approximating the natural green of living foliage (abstract; col. 6, lines 13-15). The co-dyes used may be a green dye or blue dye, used in combination with the yellow dye (col. 6, lines 21-26), as required by claim 2.

Since Fessenden, Sayo, and Carstairs teach a method of preserving plant leaves containing coloring matter with a polyethylene glycol solution with the desire to stabilize natural color, and Dokkestul teaches the use of specific dyes with ethylene glycol solutions to enhance the natural green color of living foliage, Dokkestul would have reasonably suggested the use of his dyes in the method of Fessenden taken in view of Sayo and Carstairs. It would have been obvious to one of ordinary skill in the art to use the teachings of Dokkestul in the method of Fessenden taking with Sayo and Carstairs to provide Fessenden with a method to enhance color stabilization of his preserved plant leaves.

At least some of the coloring matters of Dokkestul are suitable as food dyes (Table, col. 11), as required by claims 3 and 7.

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Dokkestul teaches the use of Acid Blue, Acid Green, Light Green, Food Green, or Fast Green as suitable co-dyes for use with Tartazine (Table), but teaches that this list is not exhaustive. It is Examiner's position that since Dokkestul teaches the use of Acid Blue and various Greens, it would have been within the skill of an ordinary artisan seeking to preserve foliage to select an appropriate shade or type of blue or green to best approximate the natural color of the plant, such as "Acid Blue 80" or "Alizarine Cyanine Green", considering Dokkestul teaches the use of an Acid Blue and Fessenden teaches cyanin-based dyes being present and useful in preserved plants. It would have been obvious to one of ordinary skill in the art to optimize and select the green and blue dyes of Applicant, compatible with Dokkestul's Tartazine Yellow, to provide the best approximation to the natural green foliage desired.

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Kolb Michener whose telephone number is 703-306-5462. The examiner can normally be reached on Monday through Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive P. Beck can be reached on 703-308-2333. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.



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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

A handwritten signature in black ink, appearing to read "J Kolb Michener". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Jennifer Kolb Michener  
Patent Examiner  
Technology Center 1700  
September 30, 2003